

Di-n-butylamine 0.2 mol/l in Toluene

Revision: 20.03.2025

Product code: AC15.01069

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Di-n-butylamine 0.2 mol/l in Toluene

UFI: 9G6J-G1H6-V00F-CH17

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet**Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda
Street: Rua de Júlio Dinis 676 7º
Place: N-4050-320 Porto
Telephone: +351 226002917
E-mail: info@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.com
Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV
Street: Industriezone "De Arend" 2
Place: B-8210 Zedelgem
Telephone: +32 50 28 83 20
E-mail: info.be@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Responsible Department: AnalytiChem
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

1.4. Emergency telephone**number:**

+44 20 3807 3798 (CHEMTREC)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
Repr. 2; H361d
Acute Tox. 4; H332
Skin Irrit. 2; H315
Eye Dam. 1; H318
STOT SE 3; H336
STOT RE 2; H373
Asp. Tox. 1; H304
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

toluene
di-n-butylamine

Signal word: Danger

Pictograms:



Hazard statements

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H366 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.
EUH071 Corrosive to the respiratory tract.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.
P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

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3.2. Mixtures**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
108-88-3	toluene			95 - < 100 %
	203-625-9	601-021-00-3	01-2119471310-51	
	Flam. Liq. 2, Repr. 2, Skin Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1, Aquatic Chronic 3; H225 H361d H315 H336 H373 H304 H412			
111-92-2	di-n-butylamine			1 - < 5 %
	203-921-8	612-049-00-0	01-2119475606-30	
	Flam. Liq. 3, Acute Tox. 2, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1A, Eye Dam. 1; H226 H330 H311 H301 H314 H318 EUH071			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
108-88-3	203-625-9	toluene	95 - < 100 %
	inhalation: LC50 = 28,1 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = 5580 mg/kg		
111-92-2	203-921-8	di-n-butylamine	1 - < 5 %
	inhalation: ATE 1,2 mg/l (vapours); dermal: ATE 300 mg/kg; oral: ATE 220 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Self-protection of the first aider

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Headache, Dizziness

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Dizziness, Vomiting
Inebriation, Spasms
Circulatory collapse, Respiratory complaints
Dyspnoea, Unconsciousness
Irritant — skin irritation and eye damage

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Foam.
Extinguishing powder
Carbon dioxide (CO2)

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Combustible liquids
Beware of re ignition.
Hazardous combustion products
In case of fire may be liberated:
Carbon dioxide (CO2) Carbon monoxide
Hydrogen cyanide (hydrocyanic acid)
Nitrogen oxides (NOx)
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Keep away from sources of ignition - No smoking.
This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).
Take action to prevent static discharges.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert

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Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

Draw up and observe skin protection programme.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Store in a place accessible by authorized persons only.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep in a cool, well-ventilated place.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Hints on joint storage

Take national regulations into account. / National regulations

Further information on storage conditions

Keep cool. Protect from sunlight.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
108-88-3	Toluene	50 100	191 384		TWA (8 h) STEL (15 min)	WEL WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
108-88-3	toluene			
	Worker DNEL, long-term	inhalation	systemic	192 mg/m ³
	Worker DNEL, acute	inhalation	systemic	384 mg/m ³
	Worker DNEL, long-term	inhalation	local	192 mg/m ³
	Worker DNEL, acute	inhalation	local	384 mg/m ³
	Worker DNEL, long-term	dermal	systemic	384 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	56,5 mg/m ³
	Consumer DNEL, acute	inhalation	systemic	226 mg/m ³
	Consumer DNEL, long-term	inhalation	local	56,5 mg/m ³
	Consumer DNEL, acute	inhalation	local	226 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	226 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	8,13 mg/kg bw/day
111-92-2	di-n-butylamine			
	Worker DNEL, long-term	inhalation	systemic	29 mg/m ³
	Worker DNEL, acute	inhalation	systemic	29 mg/m ³
	Worker DNEL, long-term	inhalation	local	29 mg/m ³
	Worker DNEL, acute	inhalation	local	29 mg/m ³

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PNEC values

CAS No	Substance	
Environmental compartment		Value
108-88-3	toluene	
Freshwater		0,68 mg/l
Freshwater (intermittent releases)		0,68 mg/l
Marine water		0,68 mg/l
Freshwater sediment		16,39 mg/kg
Marine sediment		16,39 mg/kg
Micro-organisms in sewage treatment plants (STP)		13,61 mg/l
Soil		2,89 mg/kg
111-92-2	di-n-butylamine	
Freshwater		0,084 mg/l
Freshwater (intermittent releases)		0,084 mg/l
Marine water		0,008 mg/l
Freshwater sediment		11,4 mg/kg
Marine sediment		1,14 mg/kg
Micro-organisms in sewage treatment plants (STP)		149,5 mg/l
Soil		2,23 mg/kg

Additional advice on limit values

Observe in addition any national regulations!

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles

Face protection umbrella

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 890 Vitoject®

Suitable material: FKM (fluoro rubber) 0,7 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 890 Vitoject®

Suitable material: FKM (fluoro rubber) 0,7 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet

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supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Take off immediately all contaminated clothing and wash it before reuse.

Wear fire resistant or flame retardant clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Danger of explosion

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	colourless
Odour:	like: Hydrocarbons, aromatic
Odour threshold:	No data available
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	>35 °C
Flammability:	No data available
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Flash point:	<10 °C
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH-Value:	5-8
Viscosity / kinematic:	No data available
Water solubility:	No data available
Solubility in other solvents	
No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	0,865 g/cm ³
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available

9.2. Other information**Information with regard to physical hazard classes**

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Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustained combustibility:**Sustained combustibility****Self-ignition temperature**

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics**Evaporation rate:**

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

0%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Vapours may form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent
Nitric acid
Acetic acid
Strong acid
Alcohols
Ketone
aldehydes
ester
Nitriles
Phenols

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

plastic
Plastic articles
Rubber articles
Light metal
copper
Copper alloys
Tin

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10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

Acute toxicity

Harmful if inhaled.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Pulmonary oedema

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Resorption (oral)

Resorption (by inhalation)

Resorption (dermal)

ATEmix calculated

ATE (oral) > 5000 mg/kg; ATE (dermal) > 5000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 1,667 mg/l

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
108-88-3	toluene					
	oral	LD50 5580 mg/kg	Rat	Toxicology 4, 5-15 (1975)	EU Method B.1	
	dermal	LD50 > 5000 mg/kg	Rabbit	American Industrial Hygiene Association	Study investigated mortality in groups o	
	inhalation (4 h) vapour	LC50 28,1 mg/l	Rat	Study report (1980)	OECD Guideline 403	
111-92-2	di-n-butylamine					
	oral	ATE 220 mg/kg				
	dermal	ATE 300 mg/kg				
	inhalation vapour	ATE 1,2 mg/l				

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Corrosive to the respiratory tract.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of damaging the unborn child. (toluene)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (toluene)

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (toluene)

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Aspiration hazard

May be fatal if swallowed and enters airways.

Information on likely routes of exposure

There are no data available on the mixture itself.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other information

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

Further information

Headache

Dizziness

Dizziness

Vomiting

Inebriation

Spasms

Circulatory collapse

Respiratory complaints

Dyspnoea

Unconsciousness

Irritant — skin irritation and eye damage

Gastrointestinal complaints

Conjunctival oedema (chemosis).

corrosive

Cough

Risk of serious damage to eyes.

SECTION 12: Ecological information**12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
108-88-3	toluene					
	Acute fish toxicity	LC50 5,5 mg/l	96 h	Oncorhynchus kisutch	Transactions A. Fish. Soc. 110, 430-436.	Fry were exposed to toluene in a flow th
	Acute algae toxicity	ErC50 > 433 mg/l	96 h	Pseudokirchneriella subcapitata	REACH Registration Dossier	Method: other
	Acute crustacea toxicity	EC50 11,5 mg/l	48 h	Daphnia magna	REACH Registration Dossier	Method: other
	Fish toxicity	NOEC 1,39 mg/l	40 d	Oncorhynchus kisutch	Transactions A. Fish. Soc. 110, 430-436.	Fry were exposed to toluene in a flow th
	Algae toxicity	NOEC > 400 mg/l	7 d	Scenedesmus quadricauda	REACH Registration Dossier	Method: other
	Crustacea toxicity	NOEC 0,74 mg/l	7 d	Ceriodaphnia dubia	Ecotoxicol. Environ. Saf. 39, 136-146. (other: US EPA 600/4-91-003
111-92-2	di-n-butylamine					
	Acute fish toxicity	LC50 5,5 mg/l	96 h	Oncorhynchus mykiss	Chemosphere 9, 753-762 (1980)	other: IRSQ, Quaderni dell'Istituto di
	Acute algae toxicity	ErC50 16,91 mg/l	72 h	Desmodesmus subspicatus	Study report (1988)	other: DIN 38412, part 9
	Acute crustacea toxicity	EC50 8,4 mg/l	48 h	Ceriodaphnia dubia	Study report (1994)	other: Standard guide for conducting acu
	Crustacea toxicity	NOEC 4,2 mg/l	21 d	Daphnia magna	Publication (1999)	OECD Guideline 211

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
108-88-3	toluene	2,73
111-92-2	di-n-butylamine	2,1

BCF

CAS No	Chemical name	BCF	Species	Source
108-88-3	toluene	90	Leuciscus idus melanotus	Chemosphere 14 (10).
111-92-2	di-n-butylamine	21	fish	United States Enviro

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

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12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Do not allow to enter into surface water or drains.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Classification code:	F1
Special Provisions:	274 601 640D
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Classification code:	F1
Special Provisions:	274 601 640D
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Special Provisions:	274

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Limited quantity: 1 L
Excepted quantity: E2
EmS: F-E, S-E

Air transport (ICAO-TI/ATA-DGR)

14.1. UN number or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (toluene, di-n-butylamine)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3
Special Provisions: A3
Limited quantity Passenger: 1 L
Passenger LQ: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 48, Entry 75

Information according to Directive P5c FLAMMABLE LIQUIDS

2012/18/EU (SEVESO III):

Additional information

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

National regulatory information

Water hazard class (D): 3 - highly hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,5,7,8,9,11,14,15.

Di-n-butylamine 0.2 mol/l in Toluene

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Abbreviations and acronyms

Flam. Liq. 2: Flammable liquids, hazard category 2
Flam. Liq. 3: Flammable liquids, hazard category 3
Acute Tox. 2: Acute toxicity, hazard category 2
Acute Tox. 3: Acute toxicity, hazard category 3
Acute Tox. 4: Acute toxicity, hazard category 4
Asp. Tox. 1: Aspiration hazard, hazard category 1
Skin Corr. 1A: Skin corrosion, sub-category 1A
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Dam. 1: Serious eye damage, hazard category 1
Repr. 2: Reproductive toxicity, hazard category 2
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3

Classification for mixtures and used evaluation method

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Repr. 2; H361d	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
STOT SE 3; H336	Calculation method
STOT RE 2; H373	Calculation method
Asp. Tox. 1; H304	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

Di-n-butylamine 0.2 mol/l in Toluene

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The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)